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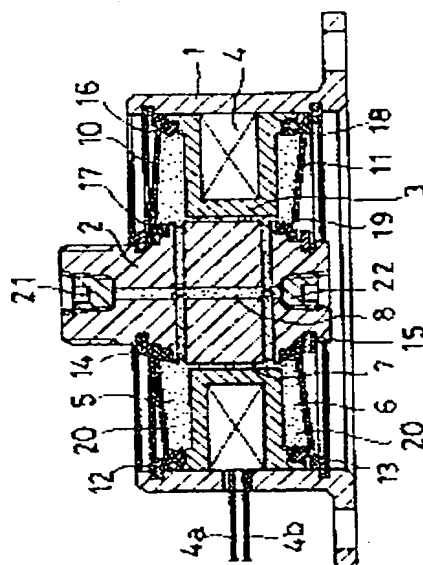
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(57)Abstract:

PURPOSE: To obtain compact structure and freely variable damping force by moving a movable substance in a cylinder against a belleville spring in order to vary the specific gravity of the magnetic fluid by means of electric current in an electromagnetic coil together with guiding magnetic fluid to flow through an orifice.

CONSTITUTION: A cylinder 1 in the form of a short tube is connected to a supporting structure side, while a movable substance 2 that is nearly in a cylindrical form is connected to a supported structure side. When downward load is imposed on the movable substance 2, the load is elastically supported by resilient force of belleville springs 10 and 11 which are locked to the inside surface of the cylinder 1 at both upper and lower parts of a coil case 3. When the movable substance 2 is moved up and down by outside exciting vibration, volume ratio between two, or upper and lower, magnetic fluid chambers 5 and 6 varies corresponding to the position of the movable substance 2.

And magnetic fluid the flow rate of which is proportional to the variation in the said ratio flows, passing an orifice 7 or 8 that is formed between the movable substance 2 and the coil case 3, thereby producing damping force. By varying amperage in an electromagnetic coil 4, apparent specific gravity of the magnetic fluid passing the orifice can be changed so that the damping force can be changed at will.



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